IV. REMARKS

Claims 10-18 are allowed. Claims 1-18 are pending in this application.

Claims 1-6, 8 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,398,032 (Fosnight et al.) in view of U.S. Patent No. 4,228,902 (Schulte). The Applicant respectfully disagrees. Claim 1 recites, a semiconductor substrate holding apparatus comprising a substrate holder capable of holding a substrate of a predetermined size. Claim 1 further recites, more than two retention springs attached to the first substantially U-shaped plate for mounting the cassette reducer to the substrate holder. In addition, claim 1 recites, when mounted to the holder, the cassette reducer effects a reduction in the substrate holder enabling the holder to hold another substrate smaller than the predetermined size. The combination of Fosnight and Schulte does not disclose a cassette reducer as called for in claim 1.

Fosnight discloses a pod (20) comprising a pod shell (21) with a front opening for surrounding one or more wafers (23) (Col. 6, L. 41-45). The pod 20 has a conveyor plate (26) attached to the bottom exterior surface of the pod (Col. 6, L. 57-58). The conveyor plate (26) has three grooves (27) for seating over three kinematic pins (29) in a support surface (24) to form a kinematic coupling between the pod and the support surface (Col. 6, L. 58-63). The cassette (22) is fixed directly to the conveyor plate (26) through the shell (21) (Col. 7, L. 44-46).

Nowhere does Fosnight suggest or disclose a cassette reducer [that] effects a reduction in the substrate holder enabling the holder to hold another substrate smaller than the predetermined

size. The pod shell (21) of Fosnight is not itself capable of holding substrates. The pod shell (11) is only for surrounding one or more wafers (Col. 6, L. 41-45). As such, the pod shell (21) does not have any substrate supports for the cassette (22) to reduce. This is not what is claimed in claim 1 of the present application.

Claim 1 calls for a substrate holder capable of holding a substrate of a predetermined size and a cassette reducer that when mounted to the holder, effects a reduction in the substrate holder enabling the holder to hold another substrate smaller than the predetermined size. The substrate supports in Fosnight are formed by the shelves (30) of the cassette support columns (28), not the pod shell (21) (Col. 7, L. 13-18). The cassette (22), having the only substrate supports disclosed in Fosnight, is fixed to the conveyor plate (26) within the shell (21) with screws (32) (Col. 7, L. 51-55). There is simply no disclosure of a cassette reducer in Fosnight as the pod shell (21) to which cassette (22) is inserted is not capable of holding a substrate of a predetermined size by itself. Therefore, the cassette (22) of Fosnight cannot effect a reduction in the substrate holder enabling the pod shell (21) to hold smaller wafers, as pod shell (21) of Fosnight is simply not capable of holding substrate without the cassette (22). Fosnight fails to suggest or disclose all the features of claim 1. Thus, claim 1 is patentable over Fosnight.

In addition, the examiner acknowledges that Fosnight does not disclose more than two retention springs attached to the first substantially U-shaped plate for mounting the cassette reducer to the substrate holder as recited in claim 1 of the present application. However, the Examiner suggests Schulte teaches a

spring loaded (41) latching mechanism (23) that locks the semiconductor cassette with the carrier as shown in Figs. 1-4 of Schulte. The Applicant respectfully disagrees.

Schulte discloses a substrate carrier (11) having a plurality of transport channels (25) arranged in a stacked parallel relationship for receiving wafers (Col. 2, L. 52-57). The carrier (11) has a pair of oppositely facing recessed regions extending partially into the transport channels (Col. 2, L. 43-63). In each of these recessed regions a stop member is pivotally mounted and spring loaded for automatic movement between an operative and inoperative position (Abstract; Col. 2, L. 64 - Col. 3, L. 13). The stop members (29) have a top shaft portion (31) and a bottom shaft portion (35) (Col. 2, L. 64-68). The bottom shaft portion (35) protrudes through apertures (21) and extends out of the bottom of the carrier (Fig. 4). In response to the carrier being placed on a surface (Figs. 1 and 2) bottom shaft portions (35) are pushed up into apertures (21) compressing springs (41) and inserting the top shaft portions (31) into cam housings (23) (Col. 3, L. 13-22). The cam members (37, 39) located in the cam housings (23) cause the upper shaft portion (31) and the stop members (29) to rotate out of the transport channels allowing the wafers to be inserted or removed from the carrier (11) (Col. 3, L. 22-30). When the carrier (11) is lifted off the surface, the springs (41) push the top shaft portions (31), the stop members (29) and the bottom shaft portions (35) down causing the cam members (37, 39) to rotate the stop members (29) back into the transport channels (Col. 3, L. 30-48) thereby locking the wafers within the carrier (11).

There is simply no disclosure of a substrate cassette being inserted and locked into the carrier of Schulte as the Examiner

suggests. The top shaft portions (31) and the bottom shaft portions (35) form a continuous rigid shaft with the stop members (29) that extend from below the bottom surface of the carrier (11) to the top surface of the carrier (11) (Figs. 2 and 4). When the carrier (11) is placed on a surface the continuous shaft is pushed up to engage cam members (37, 39) which rotates the stop members (29) so that the wafers within the carrier (11) are released (Col. 3, L. 17-30). When the carrier (11) is lifted from the surface the springs (41) push the continuous shaft down causing cam members (37, 39) to rotate the stop members (29) into the transport channels to lock the wafers within the cassette (Col. 3, L. 30-48). This is not what is called for in claim 1 of the present application.

Claim 1 calls for more than two retention springs attached to the first substantially U-shaped plate for mounting the cassette reducer to the substrate holder. Claim 1 also calls for, when mounted to the holder, the cassette reducer effects a reduction in the substrate holder enabling the holder to hold another substrate smaller than the predetermined size. There is simply no suggestion or disclosure of a cassette that is inserted into carrier (11). Nor is there any suggestion or disclosure of the spring loaded wafer locking mechanism of Schulte locking a cassette within the carrier (11) as the Examiner suggests. The springs (41) in Schulte are not retention springs and only serve to ensure the engagement of the continuous shaft with cam members (37, 39) as the carrier is lifted off a surface. The only locking mechanism disclosed in Schulte are the stop members (29) which only serve to keep the wafers from falling out of the carrier (11) while the carrier (11) is being transported. The stop members (29), the top shaft portions (31) and the bottom shaft portions (35) cannot lock or retain the carrier in any

type of frame whatsoever. Schulte fails to disclose all of the features claimed in claim 1 of the present application. Therefore, claim 1 is patentable over Schulte.

Because neither Fosnight nor Schulte suggest or disclose the features of claim 1 as recited in the present application, their combination cannot as well.

The Examiner also expresses that "the cassette reducer effects a reduction in the substrate holder enabling the holder to hold another substrate smaller than the predetermined size" as recited in claim 1 is a functional recitation. As such, the Examiner suggests that a reference need not explicitly show this teaching to meet the language of the claim and that the combination of Fosnight and Schulte is capable of functioning as the cassette reducer recited in claim 1. The Applicant respectfully disagrees.

The combination of Fosnight and Schulte cannot function as a cassette reducer [that] effects a reduction in the substrate holder enabling the holder to hold another substrate smaller than the predetermined size as recited in claim 1. Again, the pod shell (21) of Fosnight is not capable of holding substrates, thus the cassette (22) cannot effect a reduction in the substrate holder enabling it to hold a smaller substrate than the pod shell itself can hold. The substrate supports in Fosnight are formed by the shelves (30) of the cassette support columns (28) not the pod shell (21) (Col. 7, L. 13-18). Accordingly, the pod shell (21) is not capable of functioning as a substrate holder capable of holding a substrate of a predetermined size as recited in claim 1 of the present application. Therefore, because the pod shell (21) is not capable of holding substrate, the cassette (22) cannot function

as a cassette reducer as called for in claim 1 of the present application.

In addition, because top shaft portions (31) and the bottom shaft portions (35) of Schulte form continuous rigid shafts with the stop members (29) that extend from below the bottom surface of the carrier (11) to the top surface of the carrier (11) (Figs. 2 and 4) the stop members (29) are not capable of functioning as the retention springs called for in claim 1 of the present application. A portion of the stop member (29) (i.e. either the top shaft portions or the bottom shaft portions) is always protruding out of the carrier. When the carrier is placed on a surface the top shaft portions (31) protrude above the top of the carrier to engage cam members (37, 39) (Col. 3, L. 15-30). When the carrier is lifted from the surface the bottom shaft portions (35) are forced to protrude out of the bottom of the carrier by springs (41) (Col. 3, L. 30-36). In addition, nowhere is it suggested or disclosed that the shaft formed by the stop members (29), the top shaft portions (31) and the bottom shaft portions (35) is flexible or resilient (as a spring is by definition). Rather, the shaft appears to be a rigid member so as to be able to rotate and retain wafers within cassette (22) as well as be pushed up and down through apertures (21) and into cam housings (23). As such, the stop members (29) of Schulte cannot function as retention springs as called for in claim 1 of the present application.

Therefore, neither Fosnight and/or Schulte taken individually or in combination can function in such a way, as the Examiner suggests, to act as a cassette reducer effecting a reduction in the substrate holder enabling the holder to hold a substrate smaller than a predetermined size as claimed in claim 1 of the

present application. Accordingly, claim 1 is patentable over Fosnight in view of Schulte under 35 U.S.C. 103(a).

Claims 2-6, 8 and 9 should also be allowable at least because of their respective dependencies.

Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fosnight in view of Schulte as applied to claims 1-6, 8 and 9 and in further view of Ohori, U.S. Patent No. 5,950,843. For the reasons discussed above, applicant respectfully disagrees. Because neither Fosnight nor Schulte, individually and/or in combination, disclose or suggest the features of claim 1, the combination of Fosnight, Schulte and Ohori cannot as well. Thus, claim 7 is patentable by reason of its respective dependency.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

5/8/06

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